

Atg12 (P-19): sc-70130

BACKGROUND

Atg12 (autophagy-related protein 12), also known as APG12, APG12L, FBR93 or HAPG12, is a 140 amino acid protein that is ubiquitously expressed and belongs to the Atg12 family of proteins. Atg12 is a homolog of the yeast protein Apg12 that participates in autophagy. Autophagy is a membrane trafficking mechanism that delivers cytoplasmic cargo to the vacuole/lysosome for degradation and recycling. In yeast, autophagy requires a protein conjugation system consisting of Apg12 covalently bound at the carboxy-terminal glycine to Lysine 149 of Apg5. Similarly in humans, Atg12 is essential for autophagy and localizes to the cytoplasm where it is covalently bound to APG5, a conjugation reaction that requires APG7, Atg10 and ATP. The Atg12-APG5 conjugate functions as an important regulator of the autophagic process and is required for the change in membrane morphology and development of autophagosomes. Due to alternative splicing events, two Atg12 isoforms exist.

REFERENCES

1. Ueno, K., et al. 1998. Cloning and tissue expression of cDNAs from chromosome 5q21-22 which is frequently deleted in advanced lung cancer. *Hum. Genet.* 102: 63-68.
2. Mizushima, N., et al. 1998. A new protein conjugation system in human. The counterpart of the yeast Apg12p conjugation system essential for autophagy. *J. Biol. Chem.* 273: 33889-33892.

CHROMOSOMAL LOCATION

Genetic locus: ATG12 (human) mapping to 5q22.3.

SOURCE

Atg12 (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Atg12 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-70130 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Atg12 (P-19) is recommended for detection of Atg12 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Suitable for use as control antibody for Atg12 siRNA (h): sc-72578, Atg12 shRNA Plasmid (h): sc-72578-SH and Atg12 shRNA (h) Lentiviral Particles: sc-72578-V.

Molecular Weight of Atg12 monomer: 21 kDa.

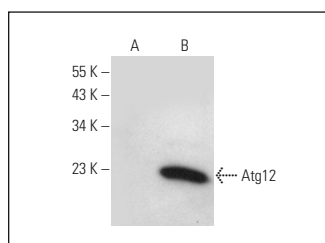
Molecular Weight of Atg12-APG5 conjugate: 60 kDa.

Positive Controls: Atg12 (h): 293 Lysate: sc-113050 or IMR-32 cell lysate: sc-2409.

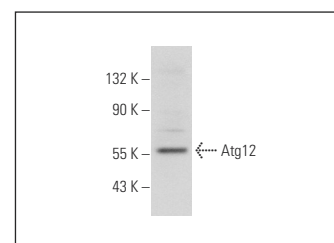
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Atg12 (P-19): sc-70130. Western blot analysis of Atg12 expression in non-transfected: sc-110760 (A) and human Atg12 transfected: sc-113050 (B) 293 whole cell lysates.



Atg12 (P-19): sc-70130. Western blot analysis of Atg12 expression in IMR-32 whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **Atg12 (C-6): sc-271688**, our highly recommended monoclonal alternative to Atg12 (P-19).